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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ROSENBERG MEIR

Appeal 2011-001286
Application 10/601,455
Technology Center 3700

Before ERIC GRIMES, LORA M. GREEN, and
JACQUELINE WRIGHT BONILLA, *Administrative Patent Judges*.

BONILLA, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 involving claims directed to an implantable medical device comprising a wirelessly powered pressure sensor and a wirelessly powered central processing unit (CPU). The Examiner has rejected the claims as obvious. We have jurisdiction under 35 U.S.C. § 6(b). We reverse.

STATEMENT OF THE CASE

The instant Specification describes an implantable medical device, such as an intracranial shunt, comprising pressure sensors for diagnosing the performance of the device by non-invasive techniques, such as telemetry. (Spec. 1, ll. 5-13.) In the device, such as shown in Figure 3, a CPU is disposed within a housing and downstream of a valve, and the CPU is electrically connected to at least one pressure sensor. (*Id.* at 3, l. 31 – 4, l. 7.) The CPU assesses and/or compares pressures as measured by one or more pressure sensors, and wirelessly communicates that information to an external device via telemetry. (*Id.* at 4, ll. 25-28.) Alternatively, pressure sensors directly communicate wirelessly with an external device using acoustic waves, thereby eliminating the need for a CPU. (*Id.* at 6, ll. 19-21.) As stated in the Specification, “CPU and sensors are preferably non-invasively powered by the external device using RF telemetry,” or “using optical or acoustical methods.” (*Id.* at ll. 16-19.)

Claims 1-41 and 43-46 are on appeal. Independent claim 25 is representative (emphasis added):

25. An implantable medical device comprising:

a housing;

a valve disposed within said housing;

a *non-invasively wirelessly powered differential pressure sensor* disposed within said housing; and

a *non-invasively wirelessly powered CPU* disposed within said housing and being electrically connected to said differential pressure sensor.

Like claim 25, the other independent claims on appeal (claims 1, 18, 21, 24, and 37-40) recite an implantable medical device comprising a non-invasively wirelessly powered pressure sensor.

The claims stand rejected as follows:

- Claims 1-24, 38-41, 43, 44, and 46 under 35 U.S.C. § 103(a) as obvious over Cowan, Jr. et al. (U.S. Pat. No. 6,585,677 B2, Jul. 1, 2003) in view of Miesel et al. (U.S. Pat. No. 6,248,080 B1, Jun. 19, 2001), further in view of Couvillon, Jr. et al. (U.S. Pat. No. 7,371,223 B2, May 13, 2008).

- Claims 15-17 under 35 U.S.C. § 103(a) as obvious over Cowan in view of Miesel and Couvillon, further in view of Saul et al. (U.S. Pat. App. Publ. No. 2003/0004495 A1, published Jan. 2, 2003).

- Claims 25-30, 37, and 45 under 35 U.S.C. § 103(a) as obvious over Cowan in view of Cosman (U.S. Pat. No. 4,206,762, Jun. 10, 1980), further in view of Couvillon.

- Claims 34-36 under 35 U.S.C. § 103(a) as obvious over Cowan in view of Cosman and Couvillon, further in view of Saul.

- Claims 31-33 under 35 U.S.C. § 103(a) as obvious over Cowan in view of Cosman and Couvillon, further in view of Miesel.

Issue

Does the Examiner establish a prima facie case of obviousness of independent claims 1, 18, 21, 24, 25, and 37-40?

Principles of Law

The Examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a prima facie case of unpatentability. *In re Oetiker*, 977 F.2d 1443, 1445 (1992). If the Examiner meets that initial burden, the burden of coming forward with evidence or argument shifts to the applicant. *In re Rijckaert*, 9 F.3d 1531, 1532 (Fed. Cir. 1993). After the applicant submits such evidence or argument, the PTO then determines patentability on the “totality of the record, by a preponderance of evidence with due consideration to persuasiveness of argument.” *Oetiker*, 977 F.2d at 1445. If the Examiner fails to establish a prima facie case of unpatentability in the first instance, however, the rejection is improper and must be reversed. *Id.*; *Rijckaert*, 9 F.3d at 1532.

Analysis

Appellant notes that each of the independent claims “recite that either the first and second pressure sensors, the differential pressure sensor and/or the CPU is non-invasively wirelessly powered.” (App. Br. 8.) Appellant correctly points out that the Examiner states that “Cowan and Miesel fail to disclose that the pressure sensors and controllers are non-invasively wirelessly powered.” (Ans. 5; App. Br. 8.)

The Examiner (Ans. 12) points to a passage in Couvillon that teaches that “the size of the control unit can be reduced by sending control data (e.g., waveform data) over a wireless communications interface.” (Couvillon, col. 12, ll. 28-30.) Couvillon also refers to “waveform of the control signals sent from the control unit to the electroactive polymer actuators.” (*Id.* at ll. 5-7.) Couvillon further describes that “a wireless interface associated with a

remote computer (e.g., a computer placed elsewhere in the operating room) can send waveform data to a companion wireless interface, which constitutes part of the pump apparatus,” and that “[t]he received waveform data can then be routed to drivers, which power the actuators within the pump.” (*Id.* at ll. 34-39.)

In response to the Examiner’s reliance on Couvillon, Appellant argues that “Couvillon does not teach an implantable fluid control device (a bypass pump) that uses waveform data sent to a receiver that powers an implanted component in order to reduce size of the control unit.” (App. Br. 8.) Referring to disclosures in column 12, lines 28-30, 38-39, 52-58, of Couvillon, Appellant asserts that “Couvillon only teaches sending control data (e.g., waveform data) over a wireless communications interface,” and that “[n]owhere does Couvillon teach or suggest that the wireless communication powers an implanted component.” (App. Br. 8-9.) Instead, according to Appellant, “Couvillon teaches away from wirelessly powering the implanted component by making it expressly clear that the implant control unit 150 is provided with its own source of power.” (*Id.*)

We agree with Appellant that Couvillon does not disclose or suggest an implantable medical device comprising a non-invasively wirelessly powered pressure sensor, as recited in each of the independent claims 25. “[D]uring examination proceedings, claims are given their broadest reasonable interpretation consistent with the specification.” *In re Hyatt*, 211 F.3d 1367, 1372 (Fed. Cir. 2000). Although the instant Specification does not define the claim term “powered,” we conclude that a skilled artisan would have understood this term to refer to something powered via

something that supplies power, i.e., a power source. Thus, a “powered . . . pressure sensor,” for example, refers to a pressure sensor that is supplied with electricity or other means of power. *See, e.g.*, Random House Webster’s College Dictionary 1058 (1995) (defining “power” to mean “to supply with electricity or other means of power”).

Consistent with this interpretation, Couvillon discusses “a source of power” or “power source” in terms of a battery, for example. (Couvillon, col. 12, ll. 53-56.) Notably, however, Couvillon does not describe a source of power for a control unit or actuator, or a control unit or actuator being “powered,” in a wireless manner. We acknowledge that Couvillon teaches that a control unit may receive the “waveform of the control signals” wirelessly (*id.* at ll. 5-7, 28-30). The “control signals” or “control data (e.g., waveform data)” correspond, however, to something that signals the control unit to activate an actuator. (*Id.* at col. 2, ll. 44-54.) Incoming data that signals a control unit to activate an actuator is not the same thing as something that powers a control unit or an actuator via a power source, such as a battery.

At most, Couvillon teaches that waveform data, which may be transmitted to the control unit wirelessly (*id.* at ll. 28-30), “can then be routed to the drivers, which *power* the acutators within the pump” (*id.* at ll. 38-39) (emphasis added). This passage in Couvillon teaches, however, that actuators are powered by drivers. It does not teach or suggest that actuators are wirelessly powered via waveform data. The Examiner does not point to any other disclosure in Couvillon that might teach or suggest a control unit or actuator that is wirelessly powered. (Ans. 12, 16-17.) As such, the

Examiner does not present a prima facie case of obviousness as it relates to “wirelessly powered” elements recited in each of the independent claims.

Conclusion of Law

We conclude that the Examiner does not establish a prima facie case of obviousness of independent claims 1, 18, 21, 24, 25, and 37-40.

SUMMARY

We reverse the rejection of claims 25-30, 37, and 45 under 35 U.S.C. § 103(a) as obvious over Cowan in view of Cosman and Couvillon. We also reverse the rejection of claims 1-24, 38-44, and 46 as obvious over Cowan in view of Miesel and Couvillon, as well as the rejection of claims 15-17 as obvious over Cowan in view of Miesel and Couvillon, further in view of Saul, the rejection of claims 34-36 as obvious over Cowan in view of Cosman and Couvillon, further in view of Saul, and the rejection of claims 31-33 as obvious over Cowan in view of Cosman and Couvillon, further in view of Miesel.

REVERSED

cdc